

Strategic Objective 3: End User Applications

**Internet for Development Applications and training: USAID/Bamako Trip
Report and Action Plan**

Leland Initiative: Africa Global Information
Infrastructure Gateway Project (698-0565)

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Executive Summary

The Leland Initiative's Strategic Objective 3 promotes broad-based utilization of information and global information technologies within USAID's development partner community to promote sustainable development. The Leland SO3 Internet training is designed to help USAID missions and their development partners harness the potential of currently available technologies to further their development objectives. The training introduces participants to the Internet, trains them in using a World Wide Web browser and other tools for accessing and using Internet resources, and introduces them to general search techniques and resources relevant to their specific areas of expertise. Equally important, the training focuses on planning for the use of the Internet in individual institutional settings.

The timing for the Leland end-user training—December 2-18, 1997, three months after the inauguration of the Internet node, when publicity was high and the public was interested in the potential of this tool—was ideal. The training took place at USAID/Mali in Bamako, during which time 154 participants were introduced to the Internet and its capabilities, and were provided time for hands-on practice with the web. Participants also created action plans, outlining their organizations' potential Internet use. The sessions included two-day sessions for each of the three development sectors included in the USAID/Bamako program (democracy and good governance, youth, economic growth), and USAID program personnel. Tailored sessions for executives, trainers, and school teachers were also conducted, providing each audience with training designed for their perspectives and roles in using and promoting the Internet.

Follow-up to the training and continued support for Internet users is crucial to promoting the Internet as a development tool for Mali. The following list summarizes the recommended next steps outlined in this report:

- continued support for Internet access in Mali

- continued encouragement of USAID support of their own and their partners' use of the Internet

- continued support of Internet users and Internet service providers

- continued support for building/transferring Internet skills to/among Malians (i.e. training of trainers)

- encouragement of Internet use for strengthening collaboration within the West African region

encourage primary and secondary schools to explore the uses of the Internet for teachers and students, especially as they may pertain to the Leland School-to-School Partnership activities

USAID/Bamako, through its Special Objective for Information and Communication (InfoCom), has played an integral part in developing the Internet industry in Mali, with the support of the Leland Initiative. The Malian private sector has actively begun creating a Malian presence on the Internet, providing Malians the opportunity to further share their knowledge and resources. With this tool, Malians now also have access to information previously unavailable, and are more effectively communicating and networking within the Francophonie and beyond. With assistance from USAID/Bamako and the Leland Initiative, Mali's development community will continue to be supported in their exploration of the Internet and its applications for development.

Background

Since the Leland Initiative assisted Mali in establishing their Internet connection in September 1997, four Internet Service Providers (ISPs) have begun offering Internet services including e-mail and access to the World Wide Web. These ISPs service approximately 800 clients by connecting to SOTELMA (the parastatal telecommunications company that operates the Internet node) with 64 KB leased lines. Monthly costs for Internet Service Providers' Internet connections average \$1,800 for full Internet connectivity, one of the lowest fees in Africa (see annex C for the list of ISPs). Clients use Bamako's poor quality telephone lines to dial into their ISPs that are often blamed for the unreliable access. There is hope for better infrastructure, however, both in the wireless technologies being explored and the privatization of SOTELMA in 1998.

In November 1997, the Leland agreement with the Malian government was reinforced through the signing of a second MOU (included in annex C), detailing support for all three Leland strategic objectives as is relevant for this stage of Internet development. As mentioned in this MOU, the Malian chapter of the Internet Society will be operational in early 1998 thereby giving Internet users and providers a forum and mechanism to affect the policy and industry. This is an important achievement, representative of the democratic nature of the Internet.

USAID Program

[The Internet]... is not a political tool, it is a development tool of first class." (Jim Hradsky, USAID Mission Director)

The Leland Initiative improves the Internet connectivity on a country-wide scale through its assistance with policy and technical issues, but when providing assistance to increase the demand, the Initiative narrows its focus to the development sector and USAID's partners. USAID/Bamako has a large development program, addressing a wide range of issues and

including a long list of partners. Therefore, Leland SO3 assistance is provided to these same partners and sectors, as follows:

Despite Mali's current state of underdevelopment, USAID believes the country has enormous development potential. USAID/Mali's strategic focus, established with significant and very broad-based Malian participation, addresses the obstacles to increasing economic growth and decreasing population growth the major factors inhibiting socioeconomic development. The long-term goal set forth in USAID's strategic plan is to help Mali eliminate its need for foreign aid. To achieve this goal, USAID is concentrating on the direct delivery of services to communities and businesses. Thus, USAID activities through 2002 aim to: (1) improve access to, demand for and quality of services to help youth under age 25 acquire the knowledge, skills and practices necessary to ensure Mali's sustainable development, (2) increase economic growth through investment in major economic subsectors, and (3) help community organizations work with government to govern the country. USAID's efforts to improve access to and facilitate the use of information will increase the impact of these activities. Having connected Mali to the Internet, USAID will help private sector firms to train Malians to exploit its information. (FY 98 Congressional Presentation, <http://www.info.usaid.gov/pubs/cp98/afr/countries/ml.htm>)

The primary reason the Leland Initiative has been so successful in Mali is due to USAID/Bamako's Special Objective for Information and Communication (InfoCom). With InfoCom at the forefront of the Initiative's activities, the right policy choices and technical assistance have made a large population aware and able to access the Internet in Mali. However, InfoCom does not just focus on the Internet, it addresses the larger issues surrounding information and communications. The following is taken from InfoCom's activity description (<http://www.info.usaid.gov/pubs/cp98/afr/countries/ml.htm>):

Information is difficult to access and manage because telecommunication systems are underdeveloped, mass media have just begun to spread throughout the country, literacy rates are low, access to official data is limited, and national libraries do not exist. These factors, combined with Mali's present economic, political and social environments, indicate the great value of activities concerned with expansion of information and communication. Malians need development information that is useful, well-organized, and applicable to their lives to benefit both themselves and their country.

[InfoCom's purpose is] ...to achieve improved access to, and facilitated use of, information. This will be accomplished through helping Malian private, public and nongovernmental associations to exploit the Internet as well as through increasing the coverage of community radio and its capacity to inform Malians. The information and communication program consists of three sets of results: (1) enhancing the existing liberal enabling environment in the information and communication sector; (2) increasing the

number of Malians who obtain and use current development information; and (3) enhancing communications.

InfoCom's mission makes the Leland SO3 approach (for information about the Leland Initiative, see annex A) even more effective. By working to improve the use of information, InfoCom can facilitate policy-making, technical solutions, increased awareness of opportunities, and the integration of those technologies into development work. In this way, InfoCom has helped to markedly improve the environment in Mali, as can be seen through the changes that have taken place since the Leland team conducted an assessment of USAID partners in September 1996. As a follow-up to the assessment, this training incorporated the assessment findings with USAID/Bamako's goals, and provided a successful training of USAID staff and partners. The recommended next steps in this report are built on the recent successes of the country and of the USAID Mission with regard to their Internet awareness and use.

Training

The training sessions conducted in Bamako were the first of the Leland SO3 trainings in French, and were based on the September training in Ethiopia. Special considerations had to be made to accommodate the French language, including the translation of all of the training materials and identification of French Internet resources for all applications trained. The training environment at USAID/Bamako was ideal: InfoCom handled all of the preparation and invitations, the training space had an adequate number of computers for the numbers of participants in each session, the speed of the Internet connection handled all computers surfing the web simultaneously, there were conference rooms available for non-computer sessions, the computer technical support was always on-hand and helpful, and the participants were eager and able to learn the skills provided.

Content

The Leland training, by design, brings together USAID staff with their local partner institutions for two-day Internet training sessions. The training includes skill development alongside a process of examining information uses and needs, and planning for the use of the Internet. This process is often new to the participants and assists them not only to become realistic about the Internet as a tool, but also prepares them to become advocates for its use within their organizations. By having USAID staff and partners undergo this process together, they learn how to better collaborate and how to increase information access and information sharing.

The Leland end-user training is tailored to the participants' skills and knowledge of the Internet. The publicity from the inauguration of the Internet node and the ISPs' marketing has been extensive within Bamako, so participants were excited and curious about the Internet, and several had seen the World Wide Web. This training provided background on the Internet, hands-on skills for e-mail and Web use, and the above mentioned action planning process. (See annex A for a description of the Leland Initiative training.)

For this nature of hands-on training to be possible, Leland and InfoCom recruited the help of IRM to set-up and support 10 computers and an LCD projector in the IRM training room, located on the fifth floor of the USAID building. All equipment and applications ran smoothly, and IRM support of the training could not have been better. Modules were arranged so that participants would alternate time spent on the Internet with time spent reflecting on their use of information and potential use of the Internet. The use of the LCD panel for demonstrations, flip charts listing URL resources, an environment that encouraged questions and interaction, and the use of a separate conference room for non-computer time all contributed to the success of the training.

In addition, the participants were asked about their expectations of the training during the first half hour; these were then reviewed during its conclusion. The expectations included: how to use the Internet, how to get information from the Internet, helping/training others to use the Internet, how to use the Internet to lower communication costs, how to use the Internet to disseminate information, and how to better share information. These were achieved to the satisfaction of the participants. The time spent stating these expectations also provided an opportunity for the trainers to address what was beyond the scope of this training (i.e., web page development), and the ability of local ISPs to provide training for a range of Internet skills.

Training of Trainers: Following the request of InfoCom, a one-day training of trainers (TOT) session was conducted for staff from USAID/InfoCom, USAID/IRM, the four ISPs and other value-added ISPs, and SOTELMA. This day included an overview of the skills modules and training style, as well as action planning for the future of the Internet in Mali from the perspective of the participants, as they are the Internet champions for the country.

Executive Sessions: For the first time, Leland trainers conducted half-day training sessions tailored to organization executives. One each was held for French and English speakers, focusing on introducing the Internet's potential and asking the executives to think about how it could help their organization. Overall, these sessions were successful, and will be refined for future use.

Peace Corps and Embassy: To promote cooperation within the U.S. Mission, USAID planned one-day sessions each for the Peace Corps and Embassy personnel. These sessions were abbreviated two-day sessions that included all of the modules with less emphasis on e-mail (due to participants' familiarity).

Schools: Two schools in Bamako attended a half-day session that introduced the Internet and resources relevant to student and teacher Internet use. By bringing together teachers and school administrators to learn about this tool, this session laid the groundwork for future Leland School-to-School Partnership activities.

Participants

Participant organizations were selected by USAID strategic objective teams, and invited by

InfoCom. Organizations selected individual participants based on the invitation letter's request for those familiar with information technologies (specifically Windows), and with an interest in promoting Internet in their organization. Sessions were organized according to the interests of the participants, the time available, and the goals of the training, as explained above.

Sector/Group	Date	Number of Participants
Democracy and Good Governance	December 2-3	17
USAID Operational Offices	December 4-5	15
Training of Trainers	December 8 (full day)	13
Schools	December 9 (half day)	13
Embassy	December 10 (full day)	14
Peace Corps	December 11 (full day)	17
Executives	December 12 (2 half-day sessions)	23
Youth	December 15-16	18
Sustainable Economic Growth	December 17-18	24
Sessions	Number of Sessions	Number of Participants
Two-day sessions	4	74
One-day sessions	3	44
Half-day sessions	3	36
Total participants: 154		

Materials

The Participant's Workbooks were distributed in either French or English, depending on the training group. Supplemental English and French materials were inserted into the workbooks instead of distributing a separate resource guide. These materials included a list of French and English mailing lists, research techniques, accessing the Internet with e-mail, overall Internet guides, HTML resources, search engine guides, and a glossary. In addition, bookmark files were distributed to each participant on diskettes, with lists of hundreds of Internet sites categorized by language and sector. Some participants received the Management Sciences for Health booklets that further explained e-mail and the action planning process. For half- and one-day sessions,

specific sections of the workbooks and specialized materials were distributed. In addition to the Participant's Workbooks, trainers (who attended the TOT) were given the Facilitator's Guide, only available in English.

A list of ISPs and their contact information was also distributed to make it easier for participants to seek Internet connectivity, if they were not already subscribed to a service (see annex B for the list of ISPs).

Outcomes

As a result of the three weeks of Leland End-User training, USAID SO teams and their partners learned about the potential of the Internet, and about one another through the training exercises. By bringing them together, they were able to share ideas about how their goals could be achieved by using the Internet.

Training participants not only gained the skills needed to use the Internet, but began creating plans for Internet use in their organizations. These action plans could then be used by the participant to introduce what was learned in the training and the potential uses of the Internet to his/her organization. They can also be used as outlines for proposals, should the organizations wish to request assistance for incorporating the Internet into their communication strategies. The combination of modules addressing use, reflection, and cost issues made action planning a valuable summary exercise.

The tailored training sessions delivered different outcomes. The TOT session helped to build the training capacity in Mali by introducing new methods and modules for Internet instruction to trainers and ISP staff. These Internet champions were also given the opportunity to plan together for directing the future of the Internet in Mali. The sessions with Embassy and Peace Corps staff were important steps in strengthening the U.S. Mission in Mali, and creating new advocates for the use of the Internet in development. The half-day session with school teachers laid the foundation for the Leland School-to-School Partnership program, but also made those teachers more aware of resources, activities, and information available to them in their profession.

Overall, the Leland end-user training not only resulted in an increased number of Internet advocates and Internet users, but also provided a forum for ideas and exploration, and gave the Internet more publicity in Mali.

Evaluations

Participants were asked to complete evaluation forms after each day (or half day) of training. The forms asked participants to rank the utility of each module (on a scale of 1 to 5), asked for feedback on the construction and clarity of the training, and allowed space for further comments. The overall evaluations of the training content were excellent. The participants consistently gave the highest possible score to almost all dimensions of the program, particularly the modules that

introduced practical Internet skills. The module explaining the how to get connected to the Internet was ranked the most useful (highest ranking by 85 percent of the participants), followed by the module that allowed participants time to surf the web with the assistance and advice of the trainers (highest ranking by 77 percent of the participants).

Participants also felt that the applications components of the training were very useful. The most favored was the action planning session, where participants strategized on how to incorporate the Internet into their activities. Less concrete was the "dreaming" module, when participants were asked to list all of the possibilities for their Internet use (no constraints on funding or logistics). This was the least preferred, which was especially noted from those who participated in the condensed sessions where participants wanted more time online.

The quality of the training structure, trainers, and materials was also rated extremely high by the participants. Approximately 93 percent felt comfortable asking questions of the trainers and 84 percent felt that the concepts were clearly explained. The workbook was seen as very helpful and participants understood the objectives of each module. In the sessions when more time was allocated to explaining the materials, the resources, and each training objective, participants ranked the usefulness of the workbook higher. The trainees were most critical of the amount of time allocated to each module; however, participants consistently felt that there was not enough time, whether they attended half-day, one-day, or two-day sessions.

This feedback, as well as the additional comments included on the forms indicate that the 154 participants who took part in this training were very satisfied with their experience. In general, they were very happy to gain practical skills and discuss the ways in which those skills can be applied. They felt that the action planning prepared them to continue this process with their respective organizations at the conclusion of their training.

Next Steps

To take the most advantage of the progress that has been made with the Internet in Mali, the following are the next steps for USAID's InfoCom, USAID/Bamako, and the U.S. Mission to promote Internet use among their staff and among other Malians. These steps are based on the current state of the Internet in Mali, the results of the Leland SO3 training, and the Internet's potential as a tool for development.

InfoCom

As Leland representation in Mali, InfoCom has been an integral part of making the Malian Internet industry what it is. In addition, InfoCom incorporates broader information and communication issues, including fostering the growth of community radio in Mali, promoting freedom of information, and demonstrating information's importance to the democratic process. With its many hats, this team has an infinite number of next steps. The following are those related to the Leland end-user training:

Leland SO1/SO2:

Continue to support the Mali chapter of the Internet Society.

Continue to support Leland activities, especially those concerning the privatization of SOTELMA.

Consider supporting Internet connectivity in secondary cities in Mali.

Continue to provide technical expertise and resources for improved Internet access in Mali. (i.e. wireless solutions within Bamako for better connectivity).

Leland SO3:

Continue to fund pilot activities, like the Malaria Research Center.

Encourage USAID SO teams to fund pilot Internet activities.

Encourage and provide the skills training for USAID/Bamako staff to become Internet advocates.

Connect selected primary and secondary schools to the Internet

Connect the university (in progress) and promote linkages with other (U.S.) universities.

Encourage and support Leland School-to-School activities in 1998. Consider complementing the activities of the Future Foundation (aiming to have one computer in each Malian school), and the meeting this summer in Bamako for teachers interested in the Internet. Consider also supporting AISB and the GLOBE Program activities.

Encourage the private sector to create public access points and other user-centered activities.

Create and maintain an e-mail help desk, for public questions about the Internet.

Training for:

Those who were not able to make the Leland training in December (WAEN, Mission de Decentralisation, the Ambassador)

Interested USAID Mission staff, and follow-up to the Leland training in December. Include seven PVOs (consolidated grants providers) that help administer USAID programs.

Partners, upon request. This could include larger sessions like those in December.

AISB and Peace Corps in next training, giving them enough notice to schedule in-service trainings. Also consider their potential involvement with the GLOBE Program.

Trainers, an extended session to incorporate methods and modules in detail. This could include trainers selected through an RFA, whose training would be paid by InfoCom on the condition that they be available when requested to do training for InfoCom.

USAID/Bamako

USAID/Bamako has had Internet access through its VSAT for several years, though not all staff have access on their desktops. If USAID staff are to be advocates for the use of this technology for development, they need:

- easy, extended access to become comfortable with it. Therefore, an Internet Use Policy needs to be created (this was underway in December)

- access to available space and resources to demonstrate the Internet and its potential uses to partners; InfoCom is a great resource for this kind of promotion

- further training, to include partner PVOs

- ideas to encourage SO teams to provide small grants to partners who wish to strengthen their organizations with the use of the Internet

- ideas to create new or expand existing networks using the Internet (i.e. mailing lists)

USAID/Bamako has a start on using the Internet to disseminate its information. It has contracted with a local ISP (Bintta) to create its web page, which will contain information useful for its clients, other donors, USAID/Washington, and the public. USAID/Bamako's Results Center is planning to use this page to disseminate the data they compile and analyze (from USAID/Bamako's activities), and is planning to write a case study describing USAID/Bamako's support and use of the Internet.

New opportunities are on the horizon for the USAID Mission, due to the recent changes in USAID/Africa Bureau structure. Some regional activities are being relocated to Bamako, which could potentially reinforce the opportunities and linkages for a more regional approach throughout the USAID program. The Internet could play an integral role in this, especially with

examples like the West Africa Enterprise Network that can show the challenges and benefits to this kind of regional cooperation.

U.S. Mission

The U.S. Embassy and the Peace Corps first need to acquire Internet access, whether it be through stand-alone terminals (as was beginning to be implemented in the Embassy, so as not to jeopardize the network's security) or a LAN. The Internet will improve the ability of these organizations to better access needed information and resources. This includes a faster means of ordering supplies for the General Services Office, and access to training resources for Peace Corps. The Internet will also enable staff to consult other State or Peace Corps.

The Peace Corps Director, Perdita Huston, is also interested in training volunteers and their counterparts, and designing a program to incorporate GLOBE (see <http://www.globe.gov>) into the activities of volunteers who work in environmental programs.

Conclusion

The training conducted in Bamako was a continuation of ideal Leland USAID Mission collaboration. The training was useful and effective, and has provided the USAID Mission with many opportunities to further Internet use with its development partners. InfoCom is encouraged to continue to provide similar training sessions, as well as they support the Internet industry and the growth of other communication tools. InfoCom is in the unique position to take advantage of opportunities for integrating information and communication technologies, and experiment with their applications to help Malians help themselves.

Annex A

Information about the Leland Initiative

Leland Initiative: Africa Global Information Infrastructure Gateway Project (698-0565)

Strategic Objective 3: End-User Applications

Background

The African Global Information Infrastructure (GII) Gateway Project, also known as the Leland Initiative, is a five-year, \$15 million project, designed to extend full Internet connectivity to up to 20 African nations. The project facilitates and encourages Internet use by Africans and their development partners to meet the challenges of achieving sustainable development. Approved by the U.S. Congress in 1995, the initiative is named in honor of U.S. Congressman Mickey Leland who was killed in a plane accident in Ethiopia in 1989. Mr. Leland had worked extensively in African affairs and was a strong advocate of U.S. support to Africa.

The Africa GII Gateway Project is an interagency effort coordinated by the U.S. Agency for International Development. Project activities fall under three strategic objectives:

Strategic Objective 1: Create an enabling policy environment in project countries to facilitate electronic networking and access to GII technologies.

Strategic Objective 2: Strengthen the local telecommunications infrastructure to facilitate Internet access and support a local Internet Service Provider industry to ensure the local availability of reliable, accessible, and cost-effective Internet access.

Strategic Objective 3: Achieve broad-based utilization of information and global information technologies among USAID's development partners to promote sustainable development.

In each country where the Leland Initiative is active, strategic objective 3 (SO3) activities begin with a series of country assessments that address 1) national and regional policies and regulations concerning telecommunications and information access and use; 2) the present condition of the national telecommunications infrastructure; and 3) the current condition of and potential demand for Internet access in the public and

private sectors. Data gathered from these assessments form the foundation for individualized country reports and action plans for SO3 activities.

Implementation

The following Leland Initiative SO3 activities are implemented through the Academy for Educational Development's Research and Reference Services Project, funded through USAID's Center for Development Information and Evaluation.

1. End-User Assessments: Methodology and Findings

The objectives of the SO3 assessment are to measure and promote awareness about the Internet and its uses for development among USAID's partners, and to appraise Internet service provision to gain an accurate picture of the availability of the Internet in the country. Assessment reports recommend next steps for USAID and the Leland Initiative to support the introduction or heightened use of the Internet in African institutions.

By focusing on current USAID partners for this assessment, the recommendations made fit well within each USAID mission's current Country Strategy Plan and established priorities. The Leland team relies on the mission's SO teams to identify their partners, and provides the following six criteria as guidelines to select organizations and individuals to be interviewed during the assessment process:

- Partner organizations that are key implementing institutions within each SO.
- Organizations that would benefit from effective use of information on a local, regional, and international level.
- Organizations or individuals that could share information, ideas, and collaborative working methods.
- Donors committing resources in the telecommunication and electronic networking arena.
- Major collectors or producers of information in-country, such as libraries or research centers.
- Private sector organizations making effective use of modern communication technologies, such as satellites, electronic networks, or the Internet.

Initial Indicators of Readiness for Effective Use of the Internet

Once the assessment interviews are completed, each organization is ranked according to the following indicators, designed to measure an institution's readiness for effective use of the Internet.

Institutional Information and Communication Strategy: This indicator evaluates an institution's ability to report its mission and main objectives. The institution is measured on its ability to articulate what role communication and information play in the organization.

Institutional Information Use: This indicator examines what information sources are produced and used. The institution is measured against the types of material and publications routinely produced and collected, such as newsletters, research reports, and raw data, in combination with the amount of data used from outside sources to accomplish its goals and make decisions. The institution is measured on the amount of communication and information sources used as an integral part of the institution's operations.

Recognition of the Potential Contribution of the Internet to its Institutional Mission: This indicator measures an institution's ability to recognize the need for and the ability to articulate the potential use of information from outside its usual resources. The institution is measured on its basic understanding of the Internet and its ability to articulate the potential contribution of Internet applications to its operations.

Champion: This indicator identifies one or more individuals within the organization who promote Internet use, articulate the importance of Internet use, and set an example of effective Internet use in the workplace. In essence, the institution is measured by its ability to identify an internal spokesperson(s) who can successfully encourage integration of new technologies or ideas.

Telecommunication and Computer Infrastructure: This indicator records an institution's existing telecommunications facility and the number and types of computers, modems, and printers already in use. This indicator takes into account the required investment necessary to upgrade the existing telecommunication and computer infrastructure to effectively integrate the new communication and information technology into an existing mode of operations.

Potential for Sustainability: This indicator measures the technology against an institution's existing operational budget to calculate whether incorporating the new technology is affordable. An institution is measured for its ability to maintain the technology on a month-to-month basis.

At the end of the interview process a summary of findings is prepared for the USAID Mission. This summary evaluates the

institution's readiness for effective Internet use and indicates which are fast-track organizations (see Resulting Activities section below for more details on fast-track activities).

Barriers to Internet Access and Effective Use

When considering the availability of the Internet in a country, the SO3 assessments appraise the barriers to Internet access and use on two levels. First-level barriers, some of which are also being examined by other U.S. government agencies, are issues at a national level that effectively block Internet access for end-users. These national-level barriers need to be eliminated before institutions can confidently rely on equitably sustained Internet access and use. These barriers include:

- National telecommunications policies (i.e., costs of telecommunications services, particularly local metered telephone charges).
- Quality and service of the national telecommunications infrastructure.
- Lack of computer technology or outdated computer and computer-related technologies.
- Lack of adequately trained technicians and insufficient facilities to produce quality trained technicians.

Absence of a competitive Internet Service Provider industry.

- Cost and quality of current Internet Service Provider services.

The second-level barriers confronted by institutions center around internal Internet and communication policies. Strategies need to be developed both within an organization and among Internet Service Providers to overcome these issues. These barriers include:

- Lack of awareness or real understanding of the Internet and its potential uses.
- Lack of institutional information and communication strategies, which the Internet, as a global information and communication resource, is especially designed to support.
- Lack of adequate training on the strategic use of the Internet.

2. Internet for Development: Applications and Training Workshop

To help realize Leland's objectives, the SO3 team facilitates on-site trainings to assist USAID missions and their development partners in harnessing the potential of currently available information technologies to further their development objectives.

The training, primarily for USAID mission staff and their fast-track development partners, will introduce participants to the Internet and to Internet resources relevant to their specific areas of expertise. It focuses on raising awareness and incorporating Internet applications into development activities. The training is tailored to meet each mission's needs, and pays particular attention to applying Internet uses to the participants' institutional settings.

The purpose of this training is three-fold: to bring USAID staff to a level of knowledge to be able to use the Internet as a resource in their work; to advance the understanding of the capabilities of the Internet on the part of USAID staff in order to promote its use among their partners, and to be able to assist those partners in the development of a strategy for Internet use; and, to introduce partner institutions to the Internet and discuss applications, encouraging them to pursue connectivity and serve as an awareness builder/resource in other similar institutions.

Prior to the training, the Leland team makes recommendations regarding the training environment and composition of the group(s) of participants to maximize the benefit of the training and to ensure the Leland objective is achieved. Details of the training are worked out in advance between Leland staff and the mission. Possibilities for the training structure include:

- Two-day programs focusing on an introduction to the Internet and building awareness about the Internet's applications and resources.
- Longer programs with greater focus on both technical and project development aspects of the Leland Initiative.
- Executive sessions for upper-level decision makers, usually three hours of an introduction to the Internet and applications relevant to their organizations' goals, to facilitate the process of adapting the Internet as a new information and communication

tool.

- Training of Trainers sessions to introduce Leland training content and techniques to in-country trainers, for their future use.

Resulting Activities

Once national and institutional constraints (first and second level barriers) are reduced or eliminated and affordable Internet access can be made available to the public, the following activities can be undertaken to develop the Internet industry and end-user capabilities. These activities, and others, are often supported by bilateral USAID missions, with the assistance of Leland team members from Washington. Selected activities may receive funding from USAID's Africa Bureau or other sources, depending on the nature of the activity.

1. Fast-Track Activities

Important practical experience can be gained through the implementation of selected pilot activities. Through the interview process, SO3 assessment teams choose a group of institutions based on their ranking from the previously mentioned indicators and their ability to enforce USAID SO activities and show the greatest impact with minimal USAID assistance. After having participated in the Internet for Development: Applications and Training Workshop, these development institutions will act as models and catalysts of effective Internet use. To promote greater cooperation and information exchange among African countries, special focus should be given to regional institutions and projects. Strategies for encouraging Internet use in rural areas, perhaps initially through institutions with headquarters in urban areas, should be developed to improve intra-national communications systems and enhance the availability of information.

2. Internet Society Chapters

It is recommended that USAID help to create and operate an Internet end-users forum that could eventually become a national chapter of the Internet Society (www.isoc.org). This type of organization brings Internet users and service providers together in a productive forum where issues can be addressed, and where strategies can be developed for improving and increasing Internet use and access in that country.

3. Demonstration and Training Centers

USAID encourages the development of affordable, public Internet awareness and access centers to promote Internet use. This type of center could provide the following types of services: free, public demonstrations; fee-based Internet accounts and Internet workstations for those without access to computers at home or in the office; fee-based end-user training; fee-based web page development and training; free institutional information and communication strategy consulting; fee-based Internet publishing consulting services and training; and free proposal development consulting for Internet-related activities.

4. School to School Partnerships

The Leland Initiative's School-to-School Partnership Program aims to facilitate cross-cultural dialogue and joint projects between African primary and secondary schools in countries where this initiative is active, and where similar goals are adopted in schools in the United States. In African countries, this initiative, in conjunction with the USAID mission's bilateral funds, may assist schools in becoming aware of the academic uses of the Internet, and in acquiring the hardware and training needed to participate in this program.

Further Information

For more information about Mickey Leland, countries participating in the Leland Initiative, the Leland Initiative's project history, or in-country and Leland staff contact information, see www.info.usaid.gov/leland.

Annex B

List of ISPs

INTERNET FOR DEVELOPMENT APPLICATIONS AND TRAINING

INTERNET SERVICE PROVIDERS IN MALI

DATATECH

Responsable: Berthé, Ousmane
Tel: (223)22-20-58
Fax: (223)22-38-37
BP: 23 Bamako
Rue: 240 Porte 102
Quartier: Hyppodrome
Email: Ousberty@datatech.toolnet.org
Web Page: <http://www.datatech.toolnet.org>

CEFIB

Responsable: Mme Coulibaly, Madina Tall
Tel: (223)22-59-52
Fax: (223)22-50-41
BP: 2838
Quartier: Quinzambougou
Email: serge@cefib.com
Web Page: <http://www.cefib.com>

SPIDER

Responsable: Dabou, Emmanuel
Tel: (223)22-23-02
BP: E 1693
Quartier: Hyppodrome
Email: edabou@spider.toolnet.org
Web Page: <http://www.spider.toolnet.org>

BINTTA

Responsable: Stevance, Eric
Tel: (223)22-01-01/22-00-44/23-04-11
BP: 5083

Quartier: Centre Commercial, rue Mohamed 5

Email: stevance@malinet.ml

Web page: <http://www.malinet.ml>

Annex C

Memorandum of Understanding (2), November 1997

AGREEMENT
BETWEEN
THE REPUBLIC OF MALI
AND
THE UNITED STATES OF AMERICA
TO ESTABLISH
THE MALI GLOBAL INFORMATION INFRASTRUCTURE

Dated: November 20, 1997

THIS AGREEMENT is entered into by and between the Government of the Republic of Mali ("GRM"), represented by President Alpha Oumar Konare, and the Government of the United States of America, acting through the United States Agency for International Development ("USAID"; the GRM and USAID are hereinafter referred to as the "Parties").

WHEREAS, USAID, pursuant to the Leland Initiative, a White House Initiative to introduce the Internet to the people of Africa, entered into a Memorandum of Understanding ("MOU") with the GRM on August 6, 1996 to establish a national Internet gateway in Mali ;

WHEREAS, the Parties have successfully implemented the MOU to date in that, among other accomplishments in Mali: a high-speed Internet gateway has been designed, installed and tested and has become the first operational Leland Initiative gateway; cost-based tariffs and first-year incentive discounts have been established, being among the lowest in Africa; a transparent process has been put into place to bring the private sector into the Internet access business and four firms have already established new businesses as Internet Service Providers; some 800 subscribers have purchased Internet access; Malian businesses have begun to participate in the global economy via the Internet; the Mission de Decentralization has begun sharing the lessons learned from Mali's ambitious decentralization program with its sister democracies; and the Mali Malaria Research and Training Center has embarked on a joint venture with the U.S. National Institutes of Health on a pioneering malaria research effort; and

WHEREAS, based upon this success, the Parties wish to undertake a broader partnership to establish a global information infrastructure ("GII") in Mali with a particular emphasis on providing high-speed Internet access to the University and selected secondary schools, and to amend the MOU to provide for this undertaking.

NOW THEREFORE, the Parties hereby agree to amend the MOU as follows:

1. A new Section 2.4 is added to the MOU stating as follows:

Section 2.4. The GRM and USAID will jointly undertake to establish a second Plan of Action within three months of signing this Agreement to Establish the Mali Global Information Infrastructure to accomplish the following goals:

- a) Policy Outcomes
 - i) a Mali GII Policy, reflecting A) the five principles of encouraging private sector involvement, promoting competition, providing open access to the GII for all information providers and users, creating a flexible regulatory environment, and ensuring universal service, B) defining the

values of an Information Society, C) acknowledging the contribution of a national information infrastructure to sustainable economic development in the coming century, and D) articulating the resources required to put such an infrastructure in place; and

ii) GII Friendly Tariffs, identifying telecommunications rate structures that promote increased usage of a broad range of digital GII services while maintaining the overall sustainability of the program.

b) Sustainable Infrastructure Results

i) Nation-wide access, establishing point-to-point, high-bandwidth, Internet connections in one or more secondary cities; and

ii) Introduction of new GII technologies, connecting end users where telephone networks are saturated or where new lines are difficult to obtain.

c) Sustainable Development Applications through GII Technologies

i) Providing high-speed Internet access to the University and selected secondary schools and teaching them how to use these tools to build "information partnerships" with their sister institutions in Africa and the United States; and

ii) Enhancing democratic governance through Internet links between the citizens and local and national decision-makers.

2. No funds are obligated by this Agreement. USAID and GRM funding to implement this Agreement will be subject to subsequent determination of the Parties and the availability of funds for this purpose.
3. All other provisions of the MOU shall remain in force and effect, except as expressly amended by this Agreement or where the meaning of the MOU is contrary to the provisions of this Agreement, and are incorporated herein by reference.

IN WITNESS WHEREOF, the Parties, each acting through their duly authorized representatives, have caused this Agreement to be signed in their names and delivered as of the date given below.

For the Government of the Republic of Mali For the United States of America

Alpha Oumar Konare
President

Date

J. Brian Atwood
Administrator
United States Agency for International
Development

Date